AMENDMENT NO. 1 JULY 2014
TO
IS 15959 : 2011 DATA EXCHANGE FOR ELECTRICITY METER READING, TARIFF AND LOAD CONTROL — COMPANION SPECIFICATION

(*Page* 2, *clause* **3.6**, *line* 1) — Substitute '**Hand Held Unit (HHU)'** *for* '**Held Unit (HHU)**'.

(*Page* 2, *clause* **3.16**, *line* 4) — Substitute 'unauthorized**'** *for* **'**nauthorized'.

[*Page* 4, *Table* 2, *Sl No.* (ii), *col* 3] — Substitute '0.0.40.0.e.255' *for* '0.0.40.0.0.255'.

[*Page* 4, *Table* 2, *Sl No.* (ii), *col* 5] — Substitute e = 1 for PC, e = 2 for MR and e = 3 for US *for* 'This object will refer to the currently connected association object.'

(*Page* 4, *Table* 2, *Note* 2) — Insert the following new Note after Note 2:

'**3** For meters with RS485 port, the physical device address shall be assigned using OBIS code 0.0.22.0.0.255 and IC = 23. The effectiveness of the address change shall take place after the termination of the current association. Physical device address change can be done using 1 byte addressing.'

[*Page* 5, *Table* 3, *Sl No.* (v) *col* 2] — Substitute the following *for* the existing:

'Services required in conformance block'

[*Page* 5, *Table* 3, *Sl No.* (v) *col* 3] — Insert the following:

'Get'

[*Page* 5, *Table* 3, *Sl No.* (v) *col* 4] — Insert the following:

'Get, Set, Get with block transfer, Selective access'

[*Page* 5, *Table* 3, *Sl No.*(v) *col* 5] — Insert the following:

'Get, Set, Action, Get and Set with block transfer, Selective access'

(*Page* 13, *clause* **A-1.3**, *line* 2 — Insert '3 phase 4 wire Whole current/Direct connected meter' after 'LV (CT operated) consumers'.

[*Page* 13, *Table* 21, *Sl No.* (iii), *col* 3] — Insert the following at the end:

'3 phase 4 wire whole current/direct connected meter after LV (CT) consumer metering'

(*Page* 14, *clause* **B-3**, *Para* 1) — Insert the following text at the end of para 1:

'For sliding window method, the sub interval period shall be 1/3rd of demand integration period.'

(*Page* 16, *Table* 22, *Note* 7) — Insert the following new Notes after Note 7:

'8 If not specified, the billing date shall be first day of the month and time shall be 00:00 h.
9 The parameter current I_Y and signed power factor, Y - phase are not applicable for 3φ/3W meter.
10 The RTC – Time format by default shall be hh:min min:ss.
11 Signed power factor shall be verified at rated voltage, rated current and rated frequency at 0.5 lag and 0.8 lead.
12 Power and Energy related parameters shall be verified at UPF, 0.5 lag and 0.8 lead.
13 For items at Sl No. (xxviii) and (xxix) the attributes 2 and 5 of indicated IC shall be captured in instantaneous profile. The attribute 3 of indicated IC shall be captured in Scaler profile. The RTC – Time format shall be hh:min min.
14 The item at Sl No. (xvi) Signed active power, kW (-Reverse) is not mandatory.'

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[*Page* 17, *Table* 23, *Sl No.* (ii), *col* 6] — Substitute ‘27’ *for* ‘87’.

(*Page* 17, *Table* 23, *Notes* 2 and 6) – Substitute the following *for* the existing:

‘**2** The items at Sl No. (ii) and (iv) and Sl No. (viii) and (ix) are for 3φ/3W meter system of measurement with Y – phase as reference point.
6 Capture objects for 3φ/3W meter are item Sl No. (i), (ii), (iv) and (viii) to (xiii).’

(*Page* 17, *Table* 23, *Note* 7) — Insert the following new Notes after Note 7:

‘**8** The RTC — Time format by default shall be hh:min min.
9 Power and Energy related parameters shall be verified at UPF, 0.5 lag and 0.8 lead.’

(*Page* 18, *Table* 24) — Insert the following new Notes after Note 7:

‘**8** If not specified, the billing date shall be first day of the month and time shall be 00:00 h.
9 The parameter current I_{Y} and signed power factor, Y – phase are not applicable for 3φ/ 3W meter.
10 The RTC – Time format by default shall be hh:min min:ss.
11 Signed power factor shall be verified at rated voltage, rated current and rated frequency at 0.5 lag and 0.8 lead.
12 Power and Energy related parameters shall be verified at UPF, 0.5 lag and 0.8 lead.’

[*Page* 19, *Table* 25, *Sl No.* (iii), *col* 2] — Substitute ‘V_{RN}/V_{RY}’ *for* ‘V_{RN}’.

[*Page* 19, *Table* 25, *Sl No.* (iv), *col* 2] — Substitute ‘V_{YN}/V_{BY}’ *for* ‘V_{YN}’.

[*Page* 19, *Table* 25, *Sl No.* (v), *col* 2] — Substitute ‘V_{BN}/V_{BY}’ *for* ‘V_{BN}’.

(*Page* 19, *Table* 25) – Insert the following new Notes after Note 7:

‘**8** The RTC – Time format by default shall be hh:min min.
9 V_{RN}, V_{YN} and V_{BN} are for 3φ/4W meter and $_{\text{RY}}$ and V_{BY} are for 3φ/3W meter.
10 Power and Energy related parameters shall be verified at UPF, 0.5 lag and 0.8 lead.’

(*Page* 19, *Table* 26) — Insert the following new Notes after Note 6:

‘**7** The RTC – Time format by default shall be hh:min min.
8 Power and Energy related parameters shall be verified at UPF, 0.5 lag and 0.8 lead.’

(*Page* 20, *clause* **E-1**, *line* 2) — Insert ‘3 phase 4 wire whole current/direct connected meter’ after ‘LV (CT) consumer metering’.

[*Page* 20, *clause* **E-4.2** (b)] — Substitute ‘Meter reader’ *for* ‘*Public client*’.

[*Page* 20, *clause* **E-4.2** (c)] — Substitute ‘Utility setting’ *for* ‘*Public client*’.

[*Page* 21, *Table* 27, *Sl No.* (xvii), *col* 5] — Substitute ‘3’ *for* ‘9’.

(*Page* 21, *Table* 27, *Note* 8) — Insert the following at the end :

‘If not specified, the billing date shall be first day of the month and time shall be 00:00 h.’

(*Page* 21, *Table* 27, *Note* 8) — Insert the following new Notes after Note 8 :

‘**9** The item at Sl No. (xvi) Signed active power, kW (-Reverse) is not mandatory.
10 The parameter Current I_{Y} and Signed power factor, Y- phase are not applicable for 3φ/ 3W meter.
11 The RTC – Time format by default shall be hh:min min:ss.
12 Signed power factor shall be verified at rated voltage, rated current and rated frequency at 0.5 lag and 0.8 lead.
13 Power and Energy related parameters shall be verified at UPF, 0.5 lag and 0.8 lead.’

(*Page* 22, *Table* 28, *Notes* 5) — Substitute the following *for* the existing *Note* 5:

‘**5** Substitute Capture objects for 3 φ /3W meter are items at Sl. No. (i), (ii), (iv) and (viii) to (xiii).’

(*Page* 22, *Table* 28,) — Insert the following new Notes after Note5:

‘6 The parameter Current I_Y is not applicable for 3φ/ 3W meter.’
7 The RTC-time format by default shall be hh:min min.
8 Power and energy related parameters shall be verified at UPF, 0.5 lag and 0.8 lead.’

(*Page* 23, *Table* 29) — Insert the following new Notes after Note 4:

‘5 The billing date - Time format by default shall be hh:min min.
6 Billing date and time shall be current date and current time.’

(*Page* 23, *Table* 30) — Modify the Note as follows:

‘Designate existing Note as Note 1
Insert new Note 2 - For item at Sl No. (vii) year of manufacture is mandatory and the format is yyyy.’

(*Page* 24, *Table* 31) — Insert the following at the end in the column 1 to 9:
‘

vi)	**RS 485 Device address**	**0**	**0**	**22**	**0**	**0**	**255**	**23**

’

(*Page* 24, *clause* **G-1**) — Insert the following at the end:

‘The document containing test procedure, threshold values and persistence time for event simulation shall be provided by the test requesting organization.’

(*Page* 24, *Table* 31, *Note* 3) — Insert the following new Note after Note 3:

‘**4** Parameter listed at Sl No. (iv) and (v) are applicable for category C meters only.
5 Sl No. (vi) programmability is applicable only for meters with RS485 ports.
6 The RTC – Time format by default shall be hh:min min:ss.’

(*Page* 25, *Table* 32, *Note* 2) — Substitute the following *for* the existing Note 2:

‘**2** Occurrence is considered an event.’

(*Page* 25, *Table* 32, *Note* 5) – Substitute the following *for* the existing Note 5:

‘**5** For each of the occurrence event captured, the cumulative tamper count value shall be incremented.’

(*Page* 25, *Table* 32, *Note* 8) — Delete.

(*Page* 25, *Table* 32) — Insert new Note after Note 10:

‘**11** Sl. No. (iii) and (iv) are not applicable for 3φ/3W meter.’

(*Page* 25, *Table* 33, *Note* 2) — Substitute the following for the existing Note 2:

‘**2** Occurrence is considered an event.’

(*Page* 25, *Table* 33, *Note* 5) — Substitute the following *for* the existing Note 5:

‘**5** For each of the occurrence event captured, the cumulative tamper count value shall be incremented.’

(*Page* 25, *Table* 33, *Note* 8) — Delete.

(*Page* 25, *Table* 33) — Insert the following new Note after Note 9 and renumber the subsequent Notes:

‘**10** Sl. No. (iii), (iv), (ix) and (x) are not applicable for 3φ/3W meter.’

(*Page* 26, *Table* 34, *Note* 2) — Substitute the following for the existing Note 2:

‘**2** Occurrence is considered an event.’

(*Page* 26*, Table* 34*, Note* 3) — Substitute the following for the existing Note 3:

‘**3** For events in Table 34, date and time of event and event ID shall be captured.’

(*Page* 26*, Table* 34*, Notes* 5 *and* 6) — Delete.

(*Page* 26*, Table* 35) — Insert the following at the end:

‘Column 1	Column 2	Column 3
(vi)	156	RS485 device address

(*Page* 26, *Table* 35, *Notes* 2, 3, 4 *and* 5) — Substitute the following *for* the existing:

‘**2** Occurrence is considered as an event.
3 Date and time of event and event ID shall be captured.
4 RS 485 device address programmability shall be present in MR and also in US mode.
5 Device address programmability is only applicable for meters with RS485 ports.’

(*Page* 26, *Table* 35, *Note* 6 to *Note* 8) — Delete.

[*Page* 26, *Table* 36, *Sl No.* (iii)*, col.* 3] — Substitute the following *for* the existing:

‘Neutral disturbance event logging due to HF or dc or alternate method as implemented in the meter — Occurrence’

[*Page* 26, *Table* 36, *Sl No.* (iv), *col* 3] — Substitute the following *for* the existing:

‘Neutral disturbance event logging due to HF or dc or alternate method as implemented in the meter — Restoration’

(*Page* 26, *Table* 36, *Note* 2) — Substitute the following *for* the existing Note 2:

‘**2** Occurrence is considered an event.’

(*Page* 26, *Table* 36, *Note* 5) — Substitute the following *for* the existing Note 5:

‘**5** For each of the occurrence event captured, the cumulative tamper count value shall be incremented.’

(*Page* 26*, Table* 36*, Note* 8) — Delete.

(*Page* 26, *Table* 37, *Note* 2 and *Note* 3) — Substitute the following for the existing Note 3:

‘**2** Occurrence is considered an event.
3 Date and time of event and event ID shall be captured on event occurrence.’

(*Page* 26, *Table* 37, *Note* 4 to *Note* 9) — Delete.

(*Page* 27, *Table* 38, *Note* 2 and *Note* 3) — Substitute the following for the existing Note 3:

‘**2** Occurrence is considered an event.
3 Date and time of event and event ID shall be captured.’

(*Page* 27, *Table* 38, *Note* 4 to *Note* 7) — Delete.

(*Page* 27, *Table* 39, *Notes* 1, 2 and 6) — Delete and renumber the subsequent Notes.

(*Page* 27, *Table* 39, *Note* 8) — Substitute the following for the existing Note 8:

‘**8** For event capture, RTC — Time format shall be hh:min min.’

(*Page* 29, *clause* **K-2**) — Insert the following at the end:

‘List of tests for various categories of meters are given in Tables 40, 41 and 42.’

Table 40 List of Tests for Category A Meter
(*Clause* K-2)

Item No. (1)	**Compliance Test** (2)	**Ref to Clause** (3)
1.0	Conformance to DLMS/COSEM (IEC 62056)	K-1 (a)
2.0	Parameter verification:	
2.1	SNRM/UA	**4.1** and **4.2**
2.2	Object list download	**5.1** and **5.2**
2.3	Association properties	**5.1** and **5.2**
2.4	Simultaneous operation	**4.3**
2.5	Security:	**7.5**
2.5.1	Lowest level security secret	**7.5.1.1**
2.5.2	Low level security (LLS) secret	**7.5.1.2**
2.5.3	High level security (HLS) secret	**7.5.1.3**
2.6	Parameter list:	
2.6.1 (a)	Instantaneous parameters	**C-4** and Table 22
2.6.1 (b)	Snap shot of instantaneous parameters	**C-4.1**
2.6.1 (c)	Scaler profile	**C-4.2**
2.6.2	Block load profile PParameters	**C-5** and Table 23
2.6.3	Selective access by range for block load profile	**11.3**
2.7	General purpose parameters:	
2.7.1	Name plate details	**F-1** and Table 30
2.7.2	Programmable parameters	**F-2** and Table 31
2.8	Event code and event logging:	**8.1**, **8.2**, **G-1**, **G-2** and Table 39
2.8.1	Indian event reference table - Voltage related	Table 32
2.8.2	Indian event reference table - Current related	Table 33
2.8.3	Indian event reference table - Power related	Table 34
2.8.4	Indian event reference table - Transaction related	Table 35
2.8.5	Indian event reference table - Other	Table 36
2.8.6	Indian event reference table - Non roll over	Table 37
2.8.7	Indian event reference table - Control	Table 38
2.9	Selective access by Entry for event log profile	**11.3**

Table 41 List of Tests for Category B Meter
(*Clause* K-2)

Item No. (1)	**Compliance Test** (2)	**Ref to Clause** (3)
1.0	Conformance to DLMS/COSEM (IEC 62056)	**K - 1**(a)
2.0	Parameter Verification:	
2.1	SNRM/UA	**4.1** and **4.2**
2.2	Object list download	**5.1** and **5.2**
2.3	Association properties	**5.1** and **5.2**
2.4	Simultaneous operation	**4.3**

Item No. (1)	**Compliance Test** (2)	**Ref to Clause** (3)
2.5	Security	**7.5**
2.5.1	Lowest level security secret	**7.5.1.1**
2.5.2	Low level security (LLS) secret	**7.5.1.2**
2.5.3	High level security (HLS) secret	**7.5.1.3**
2.6	Parameter list:	
2.6.1 (a)	Instantaneous parameters	**D-3.1** and Table 24
2.6.1 (b)	Snap shot of instantaneous parameters	**D-3.3**
2.6.1 (c)	Scaler profile	**D-3.4**
2.6.2	Block load profile parameters	**D-4** and Table 25
2.7	Selective access by range for block load profile	**11.3**
2.8	Daily load profile parameters	**D-5** and Table 26
2.9	Selective access by range for daily load profile	**11.3**
2.10	General purpose parameters:	
2.10.1	Name plate details	**F-1** and Table 30
2.10.2	Programmable Parameters	**F-2** and Table 31
2.11	Event code and event logging:	**8.1, 8.2, G-1, G-2** and Table 39
2.11.1	Indian event reference table - Voltage Related	Table 32
2.11.2	Indian event reference table - Current Related	Table 33
2.11.3	Indian event reference table - Power Related	Table 34
2.11.4	Indian event reference table - Transaction Related	Table 35
2.11.5	Indian event reference table - Other	Table 36
2.11.6	Indian event reference table - Non Roll Over	Table 37
2.11.7	Indian event reference table - Control	Table 38
2.12	Selective access by entry for event log profile	**11.3**

Table 42 List of Tests for Category C Meter

(*Clause* K-2)

Item No. (1)	**Compliance Test** (2)	**Ref to Clause** (3)
1.0	Conformance to DLMS/COSEM (IEC 62056)	**K - 1** (a)
2.0	Parameter Verification:	
2.1	SNRM/UA	**4.1** and **4.2**
2.2	Object list download	**5.1** and **5.2**
2.3	Association properties	**5.1** and **5.2**
2.4	Simultaneous operation	**4.3**
2.5	Security:	**7.5**
2.5.1	Lowest Level Security Secret	**7.5.1.1**
2.5.2	Low Level Security (LLS) Secret	**7.5.1.2**
2.5.3	High Level Security (HLS) Secret	**7.5.1.3**
2.6	ToU setting	**9**
2.7	Billing Period	**10.1** and **10.2**

Item No. (1)	**Compliance Test** (2)	**Ref to Clause** (3)
2.8	Billing Period Counter	**11.2.1** and **11.2.2**
2.9	Parameter list:	
2.9.1 (a)	Instantaneous Parameters	**E-3**, **E-3.1** and Table 27
2.9.1 (b)	Snap Shot of Instantaneous Parameters	**E-3.2**
2.9.1 (c)	Scaler Profile	**E-3.3**
2.9.2	Block Load Profile Parameters	**E-4** and Table 28
2.9.3	Selective access by Range for Block Load Profile	**11.3**
2.10	Billing Profile Parameters	**E-5** and Table 29
2.11	Selective access by Entry for Billing Profile	**11.3**
2.12	General Purpose Parameters:	
2.12.1	Name Plate Details	**F-1** and Table 30
2.12.2	Programmable Parameters	**F-2** and Table 31
2.13	Event code and Event logging:	**8.1**, **8.2**, **G-1**, **G-2** and Table 39
2.13.1	Indian Event Reference Table - Voltage Related	Table 32
2.13.2	Indian Event Reference Table - Current Related	Table 33
2.13.3	Indian Event Reference Table - Power Related	Table 34
2.13.4	Indian Event Reference Table - Transaction Related	Table 35
2.13.5	Indian Event Reference Table - Other	Table 36
2.13.6	Indian Event Reference Table - Non Roll Over	Table 37
2.13.7	Indian Event Reference Table - Control	Table 38
2.14	Selective access by Entry for Event Log Profile	**11.3**

(ETD 13)

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